

CLAIMS

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1. A method for production and purification of a soluble heterologous fusion protein comprising a cellulose binding module (CBM), from transgenic plants or transgenic plant cells expressing said fusion protein,
5 wherein said CBM is capable of binding reversibly to a polysaccharide matrix and being released from such matrix by non-denaturing elution conditions and does not bind substantially to insoluble cell-wall plant material, the method comprising
 - (a) disrupting the transgenic plant material;
 - 10 (b) adding an extraction liquid to the plant material, thereby creating a mixture of soluble and insoluble plant material, so as to extract the soluble fusion protein that is not bound to said insoluble plant material from said disrupted plant material to the liquid phase to obtain a protein extract;
 - 15 (c) separating the insoluble plant material, comprising cell-wall material and solids, from said protein extract comprising said fusion protein of interest;
 - (d) contacting said protein extract to a polysaccharide matrix which binds to said fusion protein;
 - 20 (e) washing the matrix with the bound fusion protein with one or more suitable aqueous solutions; and
 - (f) eluting the fusion protein from said polysaccharide matrix by adjusting conditions effecting the release of said fusion protein from the matrix,
 - 25 thereby obtaining the soluble heterologous fusion protein substantially purified.
2. The method of claim 1 wherein said transgenic plant or plant cell is selected from the group of dicotyledonous plants and monocotyledonous plants.
- 30 3. The method of claim 1 wherein said plant cell or transgenic plant is selected from the group of plants including tobacco, rape seed, soy bean, alfalfa, lettuce, barley, maize, wheat, oat and rice.
4. The method of any of claims 1-3, wherein the separation step (c) comprises
35 a method selected from expanded bed adsorption (EBA), precipitation, filtration, centrifugation, or any combination thereof.